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Louisiana, State Crop Pest Commission

No. 13, April 1907

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State Crop Pest Commission OF LOUISIANA.

CIRCULAR No. 13.

April, 1907.

The Circulars of the State Crop Pest Commission are sent free of charge to all farmers and fruit growers of Louisiana who make application therefor.

REPORT

UPON

THE WORK OF THE STATE CROP PEST COMMISSION*

By WILMON NEWELL, Secretary and Entomologist.

Since the last meeting of this Commission, held September 25, 1906, a considerable number of changes in the working staff has been made necessary by our inability, owing to lack of appropriation by the last Legislature, to pay salaries sufficiently large to induce competent men familiar with Southern conditions to remain in our employ. The practical training which assistants and inspectors obtain in the somewhat strenuous work conducted by the Commission makes them valuable men for other States and for other institutions doing similar work.

The lack of funds has also compelled the entire abandonment of important work and investigation along some lines, and has greatly hampered and restricted our work in every direction. I should like to review for you, briefly, the work that has been under way, and outline for you our present undertakings and the plans of work for this season.

*Read before the Commission, at its meeting held at Baton Rouge., La. April 11, 1907.

OFFICE WORK AND CORRESPONDENCE.

The letters received from planters and fruit growers throughout the State continue to increase. The fact that the past winter has been very mild and is being followed by a season favorable to the increase of insects, points to the present season as being one in which insect damage in Louisiana will exceed that of any season for many years past.

At the present time we have in our files letters from 2,750 different parties, the bulk of them being bona fide farmers. On our mailing list we have the names of approximately 8,000 Louisiana farmers who receive our publications as they are issued. For several months past the correspondence, and office work incident thereto, has been far greater than the one stenographer could attend to and from one to two of the assistant entomologists had to be employed for the major part of their time in answering letters. The congestion of correspondence became so great about the middle of last month that an additional stenographer was employed upon the authorization of the Active Chairman.

Our expenditures for postage on letters and bulletins now average upwards of \$75.00 per month.

PUBLICATION OF "CIRCULARS."

Since the last meeting, two bulletins have been published, as follows:

Circular No. 10, November, 1906, upon "The Cattle Tick," was printed in an edition of 15,000 copies, most of which have already been distributed to farmers on our mailing list, and to others through business houses, farmers' meetings, etc. This Circular gave the results of studies made of the life history of the tick by the Commission since August 1, 1905, contained practical recommendations for ridding cattle and pastures of the ticks by rotation methods based upon the experimental work, and pointed out the advantages sure to follow tick eradication.

Circular No. 11, January, 1907, gave the results of the cultural experiments conducted against the boll weevil during 1906, in co-operation with the Bureau of Entomology of the

United States Department of Agriculture. The results obtained in these experiments were most gratifying, and they thoroughly demonstrated the efficiency of the cultural methods when properly applied. Copies of these two circulars are before you.*

EXHIBITS AT STATE AND PARISH FAIRS.

At the State Fair at Shreveport, held November 17 to 28, 1906, the Commission installed an exhibit illustrating the principal injurious insects of the State and the measures to be used in preventing damage by them or in controlling them. The exhibit occupied 800 square feet of floor space and consisted of about 50 large photographs, glass cases of insects, spray pumps, cotton plants taken from our experimental fields in the boll weevil infested section, etc. A model of a small farm, illustrating the pasture rotation method of eradicating the cattle tick, attracted much attention, as did also the exhibit of live ticks engaged in egg-laying. Bulletins and other literature, contributed both by the Commission and the United States Department of Agriculture, were distributed to all farmers who desired them. Registers were kept in the exhibit space, where the visiting farmers and fruit growers registered, their names afterwards being placed on the permanent mailing list of the Commission. A table devoted to implements used in modern methods of bee-keeping also attracted much attention.

Besides the exhibit at the State Fair, somewhat less pretentious exhibits were displayed by the Commission at the Parish Fairs of Avoyelles, Webster and Bienville Parishes. One or more assistant entomologists were in charge of these exhibits, explaining methods used in fighting various insects, answering questions, distributing literature, etc.

It is certain that the good accomplished by these exhibits in educating the farmers in the control of their worst enemies far more than repays the State for the slight expense involved, and I urge that similar exhibits be made this year at as many of the parish fairs as possible.

*Circulars 10 and 11 will be sent free to any farmer requesting them, upon application being made to Wilmon Newell, Secretary, Baton Rouge, La.

STEREOPTICON LECTURES.

During the past year a good stereopticon, or magic lantern, has been secured, and is now used for illustrating insects and methods of control before meetings of farmers, fruit growers, etc. A considerable number of interesting lantern slides have been obtained by purchase, while many others have been made in our own laboratory at Baton Rouge, so that we now have several hundred slides, from which selections can be made for illustrating almost any phase of insect warfare. During the past few months the entomologist and his assistants have given stereopticon lectures at a number of towns, among them being New Orleans, Calhoun, Lake Charles, Marksville and Maringouin. It will be our policy from now on to furnish lecturer and lantern free of charge to farmers' meetings and associations anywhere in the State whenever requested to do so.

CO-OPERATION WITH THE BUREAU OF ENTOMOLOGY.

In accordance with the plans arranged at the beginning of the fiscal year, July 1, 1906, the boll weevil investigation work has been conducted in co-operation with the Bureau of Entomology, Dr. L. O. Howard and Dr. W. D. Hunter having assigned three Special Field Agents to duty in Louisiana in this work, the salaries and traveling expenses of these field agents being paid by the Bureau.

Cultural experiments were conducted at Logansport, Batchelor and Willow Glen during 1906, the results of which are given in Circular 11. Other experiments were conducted in Vernon and Calcasieu Parishes to test the merits of a somewhat generally established theory to the effect that late planting of cotton would prevent damage by the boll weevil. The results of these experiments, while negative, demonstrated the utter impracticability of such a scheme. The full report on these experiments,* as well as the report upon similar experiments conducted by the Bureau of Entomology in Texas,† I have here for your reference.

*This report will shortly be printed and distributed to the parties upon the Commission's mailing list.

†Will appear in the Yearbook of the U. S. Dept. of Agriculture for 1906.

On Feb. 28th, 1907, Mr. J. B. Garrett, one of the Field Agents assigned by the Bureau to work with the Commission, tendered his resignation in order to accept a position at the North Louisiana Experiment Station. After some delay, Mr. Clarence E. Hood, of Amherst, Mass., was appointed by the Bureau to succeed Mr. Garrett.

Upon April 1st, Mr. C. W. Flynn, who was also a special Field Agent of the Bureau of Entomology, resigned his position as such to take charge of actual field work for the Commission in the work of cattle tick eradication. Mr. T. C. Paulsen, of Baton Rouge, has been appointed by the Honorable Secretary of Agriculture to fill out Mr. Flynn's unexpired term, until June 30, 1907.

On account of the congressional appropriation for boll weevil investigations having been much reduced by the last Congress, the Bureau of Entomology will not be able to assign more than two men to the investigation work in Louisiana during the coming fiscal year, which commences on July 1.

In co-operation with the Bureau of Entomology, we have made plans for cultural experiments at Mansfield and at Marks-ville, La., the prime object in both cases being to test the cultural remedy for the boll weevil under local conditions and upon different soils, and also to give planters in these sections an opportunity to actually visit the experimental fields and note the methods employed.

A new line of work in connection with the weevil investigation is being undertaken. This is a study of the different species of insects which prey upon, or are parasitic upon, the boll weevil, or which are manifesting a tendency to acquire a taste for the weevil. Preliminary investigations of this subject already made by Dr. Hunter in Texas have revealed a number of natural enemies of the weevil which can without doubt be artificially increased and so distributed that each of the natural enemies shall be disseminated over the entire weevil infested territory. This is an attempt to utilize Nature's own forces and methods in solving the problem, and I incline to the opinion that in this direction will be found the ultimate satisfactory solution of the boll weevil problem.

ORGANIZATION OF WORKING STAFF.

On Feb. 28, 1907, Mr. Harper Dean, Jr., Assistant Entomologist, resigned his position to accept a better-paying position in Virginia. Upon the authorization of the Active Chairman, Mr. G. A. Runner, of Columbus, Ohio, was appointed as his successor. Mr. Runner is expected to report for duty about April 15th.

Having under consideration the main lines of work to be conducted this season, and the men available, your Secretary would recommend the following plan of work and organization of working force:

Boll weevil investigation, to be conducted by Messrs. C. E. Hood, T. C. Paulsen and Wilmon Newell, as Special Field Agents of the Bureau of Entomology.

Field work in cattle tick eradication, in co-operation with the State Experiment Stations and Bureau of Animal Industry, to be in charge of Mr. C. W. Flynn, Assistant Entomologist, assisted by such inspectors as may be needed as the work develops, and as funds may be secured for their employment.

Nursery and orchard inspection work, to be conducted under the general supervision of Mr. Arthur H. Rosenfeld, assisted by Mr. G. A. Runner, the latter gentleman to do the bulk of actual inspection work, Mr. Rosenfeld to also have charge of exhibits at Parish and State Fairs, to attend to correspondence and work relating to fruit insects, and to serve as office and laboratory assistant to the Secretary.

Investigation of life history of the cattle tick, experiments with parasiticides, sprays, dips, etc., for the cattle tick, to be conducted by M. S. Dougherty, assisted by one untrained helper, who will construct cages, make photographs and do general mechanical and routine work.

Bookkeeping, clerical work and stenographic work, to be done by Miss L. E. Renneker and Miss C. J. Renneker, stenographers.

HORSE FLY INVESTIGATION.

During the summer of 1906, Mr. Jas. S. Hine continued his investigation of the horse fly nuisance in Louisiana and added much to our knowledge of the life histories and habits of these

pests and their natural enemies. Mr. Hine's report upon his investigations for the past year has been submitted to the Secretary, and is a valuable scientific work, but on account of our present shortage of funds the Secretary has some hesitancy in ordering same printed.

The horse fly investigation, while of great importance to the live stock interests, will have to be suspended for lack of money to carry on the work.

CIRCULARS AWAITING PUBLICATION.

The Secretary and his assistants have manuscripts ready for publication upon a variety of important subjects relative to the injurious insects of the State, but for lack of funds they cannot at present be issued. Among these may be mentioned the following:

"Report upon Experiments in the Late Planting of Cotton, with a View to Averting Damage by the Boll Weevil."

"The White Fly of the Orange and Its Treatment."

"Second Report upon the Horseflies of Louisiana."

"The Use of Carbon Bisulphide for the Destruction of Garden and Household Insects."

"Control of the Peach Tree Borer."

"Methods for Destroying Ants, and Preventing Damage by Them."

"The Sweet Potato Weevil."

In addition to these, accumulated notes and results will shortly enable us to have ready other papers of immediate practical importance.

NURSERY AND ORCHARD INSPECTION WORK.

I am pleased to report that the work of the Commission in the inspection of nurseries and in protecting fruit growers by prohibiting the sale of trees infested with San Jose scale and other dangerous insects, has been highly appreciated over the entire State. The San Jose scale has been completely eradicated from several important nurseries where it had obtained a foothold, and under the protection given by the Commission's regulations increased investments in orchards have been made in many localities. During the past year the nursery business of

the State has increased almost 400 per cent. During the current season we have inspected 2,207,300 trees and plants intended for sale, as against the inspection of but 683,500 during the year previous. During the current season also we have issued "health certificates" to 50 nurseries within the State, as against certificates issued to 27 nurseries during the previous season.

We have every reason to believe that this increase in the fruit growing industries has been due largely, if not entirely, to the protection against deadly enemies which has been afforded the growers by the Crop Pest Commission. The express and railroad companies have given us their full support in enforcing the regulations governing the shipment of nursery stock, and we believe our inspection system to be now so thoroughly organized and effective that it is almost impossible for a Louisiana farmer to purchase a fruit tree infested with any dangerous insect or disease.

FIGHTING THE WHITE FLY OF THE ORANGE.

In the spring of 1906 we attempted the introduction of the so-called "red-pink fungus" into Louisiana orange groves. This fungus destroys the white fly of the orange, and is therefore highly beneficial. I am pleased to report that despite the fact that a severe drought made conditions very unfavorable for this attempt last spring, we succeeded in getting this beneficial fungus well established at Lake Charles, La., and on the trees where it is at work upwards of 95 per cent of the white flies on the trees were killed during the winter. We are now attempting to get this same fungus established in the orange groves in Jefferson and Orleans Parishes, and as material is available, we hope to establish it in all of the principal orange growing parishes of the State.

An extensive series of spraying experiments upon orange trees was begun at the Audubon Park Experiment Station during January and February, 1907. Various formulae and sprays were tested for the purple scale, white fly and other insect enemies of citrus fruits. While our observations on these experiments have not been completed, the present appearance of the sprayed trees indicates that some of the materials used will prove efficacious and of great value to the orange growers in keeping their groves in good, healthy condition.

THE NEW ORLEANS ANT.*

I wish to call the attention of this Commission to an introduced insect enemy that promises within a few years to do enormous damage to the agricultural interests of this State, and which at the same time is going to present a most difficult problem for solution. I refer to the so-called "New Orleans ant," which is already a bad household pest in New Orleans and Baton Rouge, and which has already spread to the towns of Alexandria, Lafayette and Lake Charles and to intermediate territory. This ant cares for and permits the increase of almost every species of plant louse and scale insect, and as the indirect result of its presence thousands of trees and plants in the city of New Orleans have already been killed. The ant does not confine itself to facilitating the increase of other injurious insects, but is itself injurious. The present spring it has destroyed the entire prospective orange crop at Audubon Park, by eating the fruit buds, and last year was the cause of heavy losses to orange growers through Plaquemines and adjacent parishes. It is also guilty of causing the increase of the "poo-a-push,"† an insect very injurious to sugar cane. Unless measures are found for the control of this pest, the orange industry of the State is doomed, and eventually the success of the sugar cane industry is likely to be threatened by it. All fruit industries will suffer from its presence. As it destroys or drives out all native species of ants, its appearance in the cotton fields is not unlikely to result in increased damage by the boll weevil. The most active enemy which the boll weevil has in Louisiana is the small "fire ant,"‡ and the latter may possibly be exterminated or driven out of the cotton fields by the "New Orleans ant."

We have no funds with which to inaugurate an investigation of this pest or to find methods of control, but unless steps are taken very shortly against it, the agricultural interests of the State will pay toll to it to the extent of many hundreds of thousands of dollars.

* *Iridomyrmex humilis* Mayr.

† *Dactylopius* sp.

‡ *Solenopsis geminata* Fab., var.

CATTLE TICK ERADICATION.

Among the many pests that we have to contend with in Louisiana, there is none that is causing such heavy losses as the cattle tick. In several localities in the State the ticks are so abundant that the raising of cattle has been almost entirely abandoned. The tick has few if any natural enemies to hold it in control, and the agricultural methods employed have resulted in a yearly increase in the number of ticks.

Unless eradicated, the ticks will continue their rate of increase for years to come, until presently the production of beef and dairy cattle in Louisiana will be an absolute impossibility. There has been a remarkable awakening of the Louisiana agriculturists during the past few months to the importance of eradicating the tick completely. We are receiving letters on the subject from cattlemen and farmers all over the State, and many individual farmers have already commenced the work of eradicating the tick on their premises.

As a result of the appropriation of \$150,000 by the last Congress for the purpose of assisting the Southern States to eradicate the tick, we have been proffered extensive aid in this work by the Bureau of Animal Industry of the United States Department of Agriculture. One of the conditions under which this aid is offered is that the State of Louisiana must herself devote men and money to this work. No specific appropriation having been made for this work by the Legislature, we can secure this Federal aid, amounting probably to \$10,000 or \$12,000, only by using a part of the Experiment Station and Crop Pest Commission funds for the work. With the approval of the Governor and Active Chairman of the Commission, your Secretary has made provisional arrangements for commencing this work immediately in co-operation with the Bureau of Animal Industry. It is proposed during the coming week to send Mr. C. W. Flynn, of the Commission staff, in company with Dr. Walter Sorrell, of the Bureau of Animal Industry, to several different localities of the State to determine in which parish the work of eradicating the tick can be undertaken to best advantage. Immediately following the reports of these gentlemen some one parish will be selected and work commenced by placing experts and local in-

spectors in the parish to study conditions and instruct each and every farmer in the parish how to proceed in order to eradicate the ticks on his premises. It is proposed to make this work largely, if not entirely, educational during the first few months, and to induce owners of premises, by "moral suasion" rather than by the enforcement of legal measures, to eradicate the ticks.

Regulations for the quarantining of infested premises, etc., will, however, eventually be necessary for the protection of the farmers who have cleared their premises of the ticks, and I would urge this Commission to adopt such regulations now in order that they may be invoked when needed. Federal employes, as such, cannot enforce quarantine measures within the State, and it will therefore be necessary for this Commission to adopt and enforce all quarantine regulations necessary to the successful prosecution of this work. Federal employes engaged in the work of tick eradication in Louisiana should be appointed inspectors of this Commission in order that they may have authority to enter premises for inspecting cattle and for enforcing quarantine when such becomes necessary, and I would recommend that provision for such appointments be made at your present meeting.

Respectfully submitted,

WILMON NEWELL, Secretary.

Baton Rouge, La., April 11, 1907.

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